An Investigation on Network Relationship of Elderly Nursing Home

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Abstract: All developed countries have been facing the trend of aging population and view it as an importance social policy which has to plan care and nurse senior citizens. The elderly caring and nursing organizations are obligated to provide more comfortable and suitable environment for a high quality life of elders. Based upon Maslow's Hierarchy of Needs Theory, there is a hierarchy of five needs within each individual, including physiological needs, safety needs, belongingness and love Needs, self-esteem needs and self-actualization needs. Individuals would acquire emotional support, materiality and service through social network. This study investigates two main issues related to network relationship of elderly nursing home. First, this study demonstrates the network relationship between elderly nursing home and other related groups, including family and friends of elderly resident, exclusive volunteers, neighborhood community centre, religion groups and other welfare associations. Second, this study investigates what the network relationships would influence the satisfaction of five elderly residents' needs. To better understanding the real connection among groups related to nursing home, this study uses case study with the perceptions of social network to know the network relationship in the nursing home and what it influences their residents' needs.

Keyword: *Network relationship, Social network, Maslow's Hierarchy of Needs, Elderly Nursing Home*

1. Introduction

With the prospering of medical and pharmaceutical science, the life expectancy of human beings has been longer, but the problem aging population is coming after. All developed countries have been facing the trend of aging population and view it as an importance social policy which has to plan, and what is more nursing care is an serious problem that all countries should need to figure out. For caring the elders and giving them a better living quality, a specialist association, the elder nursing home which could provides more professional medical caring and constructs social relationship, has been established and needed. Any development or production of a country needs active workforce, and the less youth population now means the support system constructed by active workforce would be weaker in the future. Aging index is a measure of the age structure of the population and is represented by the elderly population of an age when they are generally economically inactive (aged 65 and over) to young population (from 0 to 14). In

Table 1, ageing index of Taiwan increases year by year and increase 26.3% during ten years. The main Asia countries, Taiwan, Japan, Korea and China all has higher ageing index, especially Japan who holds the highest one (175.1%) and far more twice than Taiwan.

In 2010, the ageing index of Taiwan has 68.6% which means that there have 68.6 persons per 100 persons and the other 32.4 youth persons under 14 age have to support twice more elder persons over 65 age in the future. The old-age dependency is also the population ageing level and is measured as the percentage of from 15 till 64 years old to 65 and over 65 years old. The Table 2 shows the actual workforce who has active production are depended by the retired persons. The old-age dependency ratio of Taiwan increases year by year and adds 2.1% in ten years. In Asia, Japan has the heaviest burden for the young people who has old-age dependency ratio high to 36.1% and twice more than other countries in 2010. Following the trend of population ageing, the specialist associations for elders are established after 1999 year. According to Table 3, Taiwan has five types of elderly nursing home, including long-term nursing organization, nursing organization, caring organization, elderly community shelter and elderly residential settling. There are 787 elder nursing homes in 2011, but the total number of associations for them in 2007 is 1,016 which reaches peak in 10 years.

Table 1: Ageing index during 2001-2010

Year	Taiwan	Japan	Korea	China	U.S.
2001	42.3	125.1	36.3	31.6	58.4
2002	44.2	130.5	38.7	32.6	58.6
2003	46.6	135.8	41.3	33.9	59.0
2004	49.0	140.3	44.1	35.3	59.6
2005	52.1	146.5	47.3	37.9	60.4
2006	55.2	152.6	51.1	40.1	61.4
2007	58.1	158.8	55.3	41.4	62.2
2008	61.5	164.3	59.5	43.5	63.6
2009	65.1	170.5	63.9	45.9	63.9
2010	68.6	175.1	68.4	53.4	65.8
+ (-)	26.3	50	32.1	21.8	7.4

Source: Ministry of the Interior of R.O.C.
Note: 1.Ageing Index = 65 age+ / 14 age- *100,
2. + (-) presents the gap between 2010 and 2001

Table 2: Old-Age Dependency Ratio during 2001-2010

Year	Taiwan	Japan	Korea	China	U.S.
2001	12.5	26.5	10.5	10.1	18.7
2002	12.8	27.6	11.1	10.4	18.6
2003	13.0	28.5	11.6	10.7	18.5
2004	13.3	29.2	12.1	10.7	18.5
2005	13.6	30.5	12.6	10.7	18.5
2006	13.9	31.8	13.2	11.0	18.6
2007	14.1	33.1	13.8	11.1	18.7
2008	14.4	34.3	14.3	11.3	19.0
2009	14.6	35.6	14.7	11.6	19.3

Year	2010				
2010	14.6	36.1	15.2	11.9	19.4
+ (-)	2.1	9.6	4.7	1.8	0.7

Source: Ministry of the Interior of R.O.C.
Note: 1.Old-Age Dependency Ratio (%) = Age 65+ / Age 15-64*100
2. + (-) presents the gap between 2010 and 2001

Table 3: Number of Elders Nursing Home in Taiwan during 1999-2011

Year	Long-term Nursing Organization	Nursing Organization	Caring Organization	Elderly Community Shelter	Elderly Residential Settling	Total
1999	0	183	54	20	4	261
2000	4	471	53	17	4	549
2001	10	598	50	17	4	679
2002	15	713	53	15	4	800
2003	20	758	49	12	4	843
2004	24	813	49	10	4	900
2005	27	838	47	10	4	926
2006	32	869	43	10	5	959
2007	37	922	43	9	5	1016
2008	33	882	40	9	5	969
2009	31	845	40	9	5	930
2010	30	775	39	9	5	858
2011	26	711	37	7	6	787

Source: Ministry of the Interior of R.O.C.

Many studies shown that elderly residuals with supportive network contacts display better physical and mental health than those without (Mui, 1996; Cohen, 2004; Umberson and Montez, 2010). Assessing supports available from informal and formal social network contacts such as spouses, friends, neighbors and social agencies is recognized as a critical initial step in facilitating resource mobilization among the elderly to enhance well-being (Yoo and Zippay, 2012). On the other hand, previous studies focus on the demand or needs hierarchy of elderly people (Bilsen et al., 2005; Yamazaki, 2006; Eltayeb et. al, 2012). However, there are very little studies about integrating social network perspective and hierarchy of needs to investigate network relationship of elderly nursing Home.

Based upon Maslow's Hierarchy of Needs Theory (Maslow, 1943), there is a hierarchy of five needs within each individual, including physiological needs, safety needs, belongingness and love Needs, self-esteem needs and self-actualization needs. Individuals would acquire emotional support, materiality and service through social network (Antonucci, 1985). This study investigates two main issues related to network relationship of elderly nursing home. First, this study demonstrates the network relationship between elderly nursing home and other related groups, including family and friends of elderly resident, exclusive volunteers, neighborhood community centre, religion groups and other welfare associations. Second, this study investigates what the network relationships would influence the satisfaction of five elderly residents' needs.

2. Review of Literature and Theoretical Investigation

Social Network: A social network is social structure made up of individuals which called nodes (Freeman, 2006), and the relationship among actors as lines, and then it forms a social network (Granovetter, 1973) (Figure 1). Social network perspective utilizes "relationship" to be a tool to evaluate the status of members (Garton, Hyaythornthwaite & Wellman, 1997) and understand how the network influences each other (Scott, 1991; Waeeerman & Faust, 1994). With the view of personal interaction, "network" is treaded as a construction of interaction relationship, and network members would react with each other's or have translate behaviors to satisfy their need or reach the same goals (Hardcastle, Wenocur & Powers，1997).

Figure 1: Social Network
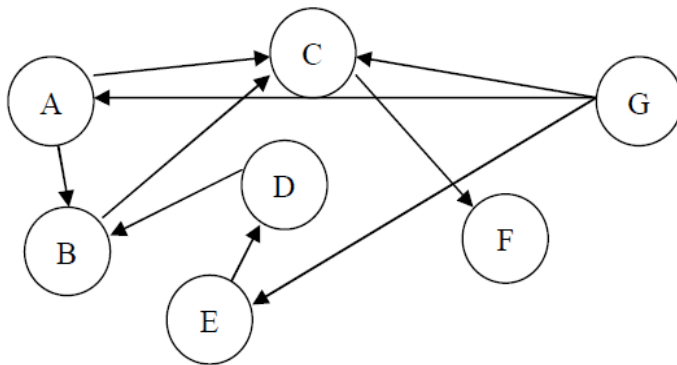
There are some kind of health-related social controls between social network and health behaviors (Umberson et al., 2010). People lie in a social network with rich resource are connected to the control of various social agents, such as friends and family members (Sharon & Howard, 2012). If nursing is the core in the social network, the existing of network definitely highly influences the elderly-residents because members all expect to acquire or enforce their resource whether in emotional or in material and maintain their status in the network. The other view of social network in nursing home, it positively affects members' health and protecting them from diseases (Moraes and Dantas, 2007). Previous study proved that the connecting level of social network of nursing home and stability of social network of nursing home is positive related to the health of elderly-residents (Pai, 1994; Johnson, 1997). Moreover, the more active network delays mortality and enhances psychological wellbeing (Fiori, Smith & Antonucci 2007). However, the social network constructed by different age has different reacting level, while the reaction of social network with elder age would diminish (Due, Holstein, Lund, Modvig, & Avlund, 1999).

Maslow's Hierarchy Need: There is a hierarchy of five needs within each individual, including physiological needs, safety needs, belongingness and love Needs, self-esteem needs and self-actualization needs.

Physiological Needs: Physiological needs are the physical needs for human survival and they are essential for living, such as air, water and food. Physiological needs are important for living (Maslow, 1943). As to

elderly residents, having stable and valid caring which is good for body health and eliminating pain is the minimum requirements, but the basic needs for elder who needs the insurance of body and medical caring is provided by the nursing home.

Safety Needs: While the physical needs are satisfied, it comes out the need of individual safety which makes individual fears no war, natural disaster, threat, danger and so on (Maslow, 1943). It also thought that something unexpected occur might make individuals feel like fall into a panic abyss since unexpected occurrence constituted a grave danger. This is another need for elder who needs the safety insurance of body and medical caring.

Belongingness and Love Needs: After physiological and safety needs are fulfilled, individuals seek to a social connection with others or groups. According to Maslow (1943), humans need to feel a sense of belonging and acceptance among their social groups. The third level of human needs is a kind of safety in emotion and physiology and wants to have companion to support them. Elder care acceptors might be eager for an emotional support due to their various past experiences and the pain suffer on their body and mental.

Self-Esteem Needs: Most people desire to be respected by others and have a high evaluation of them. The self-esteem needs might be constructed of status, recognition, fame, prestige, and attention and these all could help people raise their feelings of self-confidence which is against to the feelings of inferiority, of weakness and of helplessness (Maslow, 1943). The elders might to maintain their self-esteem due to their ages, and the need of self-esteem would be stronger than other ones who still young and health.

Self-Actualization Needs: Maslow (1954) described self-actualized people as those who were fulfilled and what they were capable of doing. The self-actualization needs (Maslow, 1962) refer to the need for personal growth throughout his life. In the other word, the self-actualization needs would be individuals to actualization themselves whether in emotional or their desirable dream. The elders might to accomplish all what they desire before finishing the last mile of their life.

3. Research Framework and Methodology

Under the social network theory, this study attempts to investigate the network relationship between elderly nursing home and other related groups, including family and friends of elderly resident, exclusive volunteers, neighborhood community centre, religion groups and other welfare associations. Based upon Maslow's hierarchy of needs theory (1943), there is a hierarchy of five needs within elders in nursing home including physiological needs, safety needs, belongingness and love Needs, self-esteem needs and self-actualization needs. Additionally, this study investigates which the network relationships would influence the satisfaction of five elderly residents' needs. The research framework in this study is shown as Figure 2. To better understanding the real connection among groups related to nursing home, this study uses the case study with the perceptions of social network to know the network relationship in the nursing home and what it influences their residents' needs.

Figure 2: Research Framework
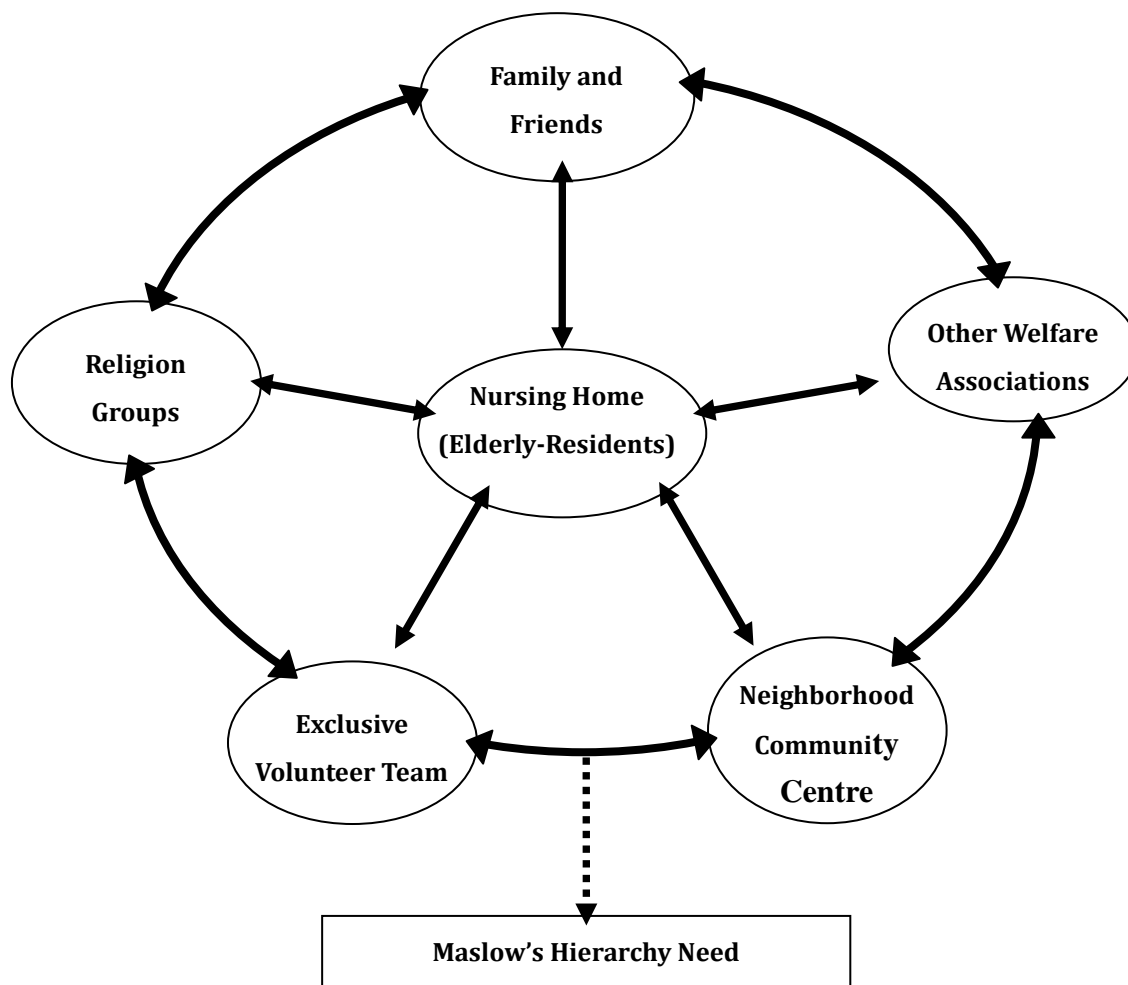
4. Findings and Proposition

Findings: Elderly residents are surrounded by many different types of groups or organizations and they form a particular social network. The findings of this study are shown as Figure 3. The solid lines present the connection level between the elderly residents with five different groups. The dotted lines show the connection level among five different groups in the network. As to the length, it shows how close their relationships are. If the line is shorter, their relationships are more tightly.

Exclusive Volunteers visit the elders in the nursing home twice a week and they only communicate a few elders at one time. But they hold the closest relationship with the elderly residents and contact them more frequently. Exclusive Volunteer is the most important group that is helpful for elderly residents to connect with other four groups. *Religion Groups* meet the elders once a week and provide wider person-time. Religion groups give the elders more safety feeling which other related groups cannot provide. Surprisingly, *Family and Friends* are not the most frequent ones contact the elders, even though some of them have ties of blood. They meet the elder at every one or two month. *Other Welfare Associations* visit the nursing home about once a quarter and can communicate many elders at one time. *Neighborhood Community Centre* has the longest interval about twice a year.

Figure 3: Network Relationship of the Elders Nursing Home
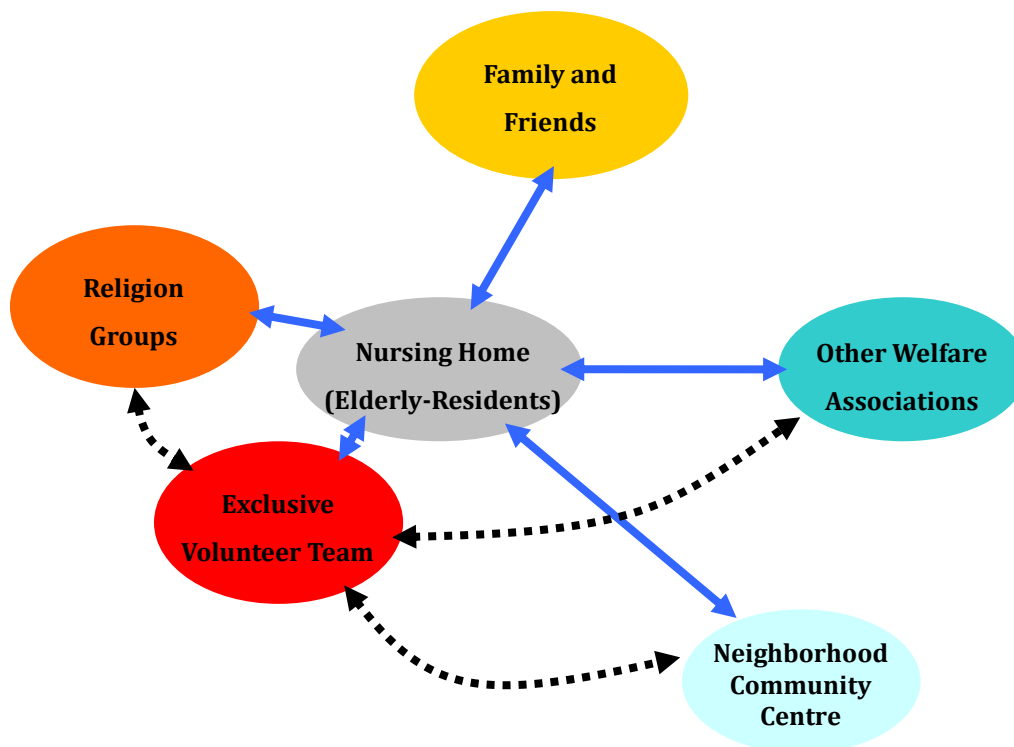
Propositions: Figure 4 shows which the network relationships would influence the satisfaction of five elderly residents' needs. On the basis of Maslow's hierarchy needs, each of the five related association in the network of elder nursing home is presented by particular color and the needs would be colored while it is satisfied.

Network Relationships and Physiological Needs: Five network relationships of elderly residents are not helpful to satisfy the physiological need. The basic needs for elder who needs the insurance of body and medical caring are only provided by the nursing home.

Proposition 1: Network relationships have no influence on physiological needs of elderly residents.

Network Relationships and Safety Needs: The safety need makes the elders fear no war, natural disaster, threat, danger and so on (Maslow, 1943). This study found that religion groups which give people a belief of living and mental peace could satisfy safety needs.

Proposition 2: Network relationships connected with religion groups is partially positive related to safety needs of elderly residents.

Network Relationships and Belongingness and Love Needs: Most network participators give the need of belongingness and love which presents an emotional support and physiological needs. All of the five related associations in the network all give the need of belongingness and love for elders.

Proposition 3: Network relationships are positive related to belongingness and love needs of elderly residents.
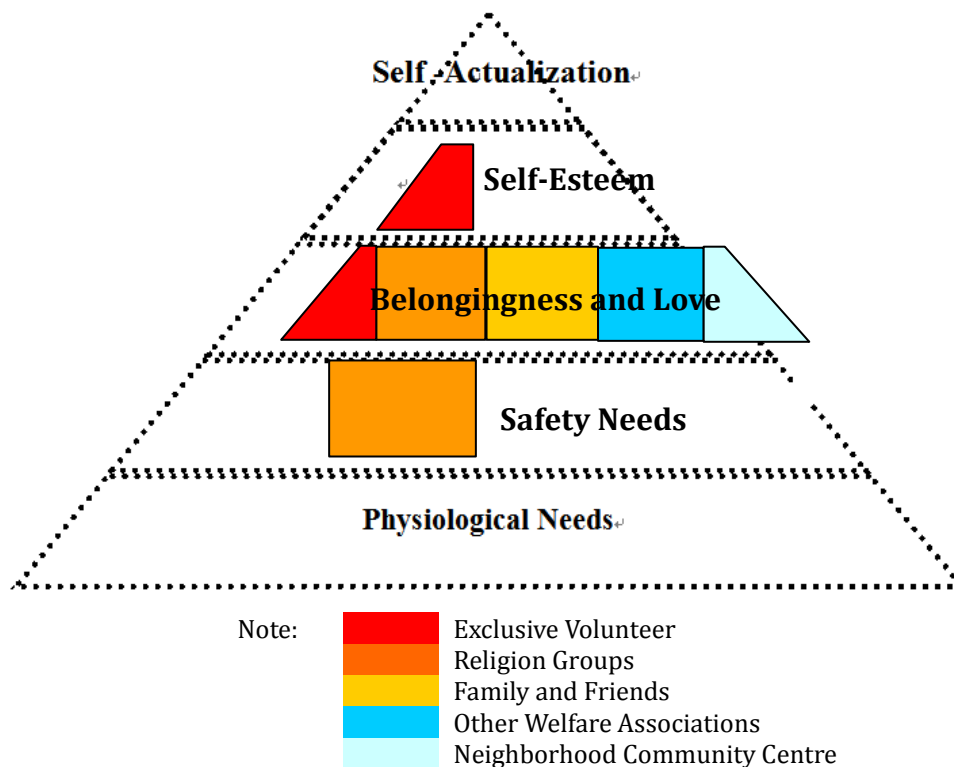
Network Relationships and Self-Esteem Needs: Elderly residents feel frustrating while accepting others helps and want to maintain their self-esteem due to their ages and in front of givers who still young and health. Volunteer team helps the elders taking care of themselves which helps them to remind the time while they are still young and full of passion. Thus, exclusive volunteer team us helpful to maintain the elders' self-esteem.

Proposition 4: Network relationships have partial influence on self-esteem needs of elderly residents.

Network Relationships and Self-Actualization Needs: The need for personal growth throughout his life (Maslow, 1962) and so do the elderly-residents want to accomplish all what they desire before finishing the last mile of their life. However, the need of self-actualization cannot be satisfied through the five network relationships and only the elderly-residents themselves can do that.

Proposition 5: Network relationships have no influence on self-actualization needs of elderly residents.

Figure 4: Network Relationships Influence Needs

Note: Exclusive Volunteer
             Religion Groups
             Family and Friends
             Other Welfare Associations
             Neighborhood Community Centre

5. Conclusion and Discussion

This study investigates the network relationships between elderly nursing home with other five different groups, including exclusive volunteers, neighborhood community centre, other religion groups, family and friends of elderly resident, and elderly residents. Exclusive Volunteer holds the closest relationship with the elderly residents, religion Group is the second. Surprisingly, family and friends are the third close relationship, even though some of them have ties of blood. Additionally, Exclusive Volunteer is the most important group that is helpful for elderly residents to connect with other four groups.

Each of five groups might satisfy the needs of the elders in the nursing home, but there is a little different the need each one could provide. Within a network, people are connected by various social groups (Sharon & Howard, 2012) and provided some kind of health-related social relationship (Umberson et al., 2010). Moreover, physiological need of elderly residents is given by the elderly nursing home. Most of the network participators or groups could give the need of belongingness and love which presents the requirement of social relationship and an emotional support and the basic physiological needs. Interestingly, the religion groups not only satisfy belongingness and love needs of the elders, but also satisfy the safety needs. That might be the reason that religion could give people a belief of living and mental peace. Self-esteem and safety needs of elderly residents could be a little bit satisfied by network relationships. Exclusive volunteer team is the only one who could satisfy the elders with self-esteem need, and it might be that the team encourages and teaches the elders taking care of themselves which helps the elders to remind the time while they are still young and full of passion. It found that self actualization needs could not be satisfied by any network relationship due to the self-actualization needs would be satisfied only when people are fulfilled and done all what they were capable of and it needs the efforts from elders themselves (Maslow, 1954; 1962).

This study made significant contributions to both researchers and practitioners. First, this study integrated two theories, social network perspective and hierarchy of needs to investigate network relationship of elderly nursing home based on five hierarchy of needs, and it differs from prior researches (Mui, 1996; Cohen, 2004; (Bilsen et al., 2005; Yamazaki, 2006; Umberson & Montez, 2010; Eltayeb et. al, 2012; Yoo & Zippay, 2012). Second, there are significant connection level among the relationships between elderly residents and five different external groups. Additionally, relationships with five external groups influence different satisfaction of five needs hierarchy. The findings are helpful for elderly nursing home to build external connection policies. Finally, this study found something interestingly develops propositions for further study about social network and need satisfaction.

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